# QG series



QG40N-KDXYh-080-ASN-CM-UL

### Tilt switch

2 axis horizontal mounting

Programmable device Output: NPN

Switch points programmable between ±1° and ±80°

Measuring range Factory defaults: ±80°

## QG40N-series







Housing
Dimensions (indicative)
Mounting
Ingress Protection (IEC 60529)
Relative humidity
Weight
Supply voltage
Polarity protection
Current consumption
Operating temperature
Storage temperature
Measuring range
Centering function
Frequency response (-3dB)
Accuracy (overall @20°C)
Offset error
Non linearity
Sensitivity error
Resolution
Temperature coefficient
Max mechanical shock
Output
Output load
Short circuit protection
Boot time
Programming options

General specifications 11748B, v20241216
Plastic injection molded housing (Arnite T06 202 PBT black)
40x40x25 mm
Included: 2x M3x25 mm zinc plated steel pozidrive pan head screws, self-tapping (PZ DIN 7500CZ)  Mounting on flat surface only. Screw with care
IP67, IP69K (with IP69K mating connector)
0 - 95% (non condensing, housing fully potted)
approx. 45 gram
6 - 30 V dc
Yes
≤ 25 mA
-40 +60 °C
-40 +85 °C
Factory defaults: ±80°
Yes (0°), range: ±5°
0 - 0,7 Hz
0,3° typ. (0,5° max)
not applicable after zeroing
not applicable
not applicable, Repeatability 0,2°
0,1°
± 0,04°/K typ.
10.000g
dual NPN
2x 500 mA continuously, Temperature protected, protected against back EMF
Yes, continously
< 100 ms
by optional QG40N-configurator (switch points, delay times, filtering)

## **QG** series



#### 2 independent NPN outputs:

- Programmable switchpoints ±S (optional QG40N Configurator)
- Operation zone: conducting
- Critical zone: non-conducting
- Unpowered sensor: non-conducting

#### Factory defaults:

- Switchpoint ±S output X: ±80°
- Switchpoint ±S output Y: ±80°
- hysteresis: 0,5°
- operation ► critical delay : 0,5 s
- critical ▶ operation delay : 1 s

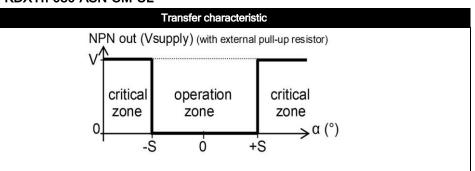
The default 0° position is when the sensor is mounted horizontally (round nose upwards) and no acceleration is applied.

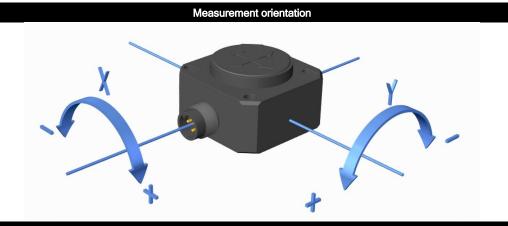
Only one axis may exceed 45° tilt. Zeroing: eliminate mech. offsets Connect zeroing input to ground (>0,5sec) within 1 min. after power up. Normally the zeroing input should be left unconnected. Zeroing is possible within ±5° tilt.

#### Connection

Wire / pin coding

#### QG40N-KDXYh-080-ASN-CM-UL





#### Connectivity (cable length ±10%)

M12 5p male connector (Glass fibre reinforced grade, contacts CuZn pre-nickeled galv. Au)

Pin 1: + Supply Voltage
Pin 2: output Y
Pin 3: Gnd

Pin 3: Gnd
Pin 4: output X
Pin 5: zeroing

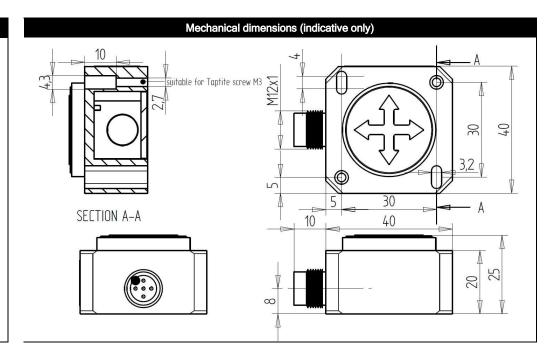


If connected with M12 F (accessory sold by DIS):

Brown: + Supply Voltage

White: output Y
Blue: Gnd
Black: output X
Green/yellow: zeroing





#### Intended use, UL, Remarks

QG series sensors are intended to measure inclination, acceleration or tilt angle after installing in machines, equipment and systems. Flawless function in accordance with the specifications is ensured only when the device is used within its specifications.

This device is not a safety component according to the EU Machine Directive (ISO13849). For full redundancy two devices can be used in the application.

Modifications or non-approved use are not permitted and will result in loss of warranty and void any claims against the manufacturer.

UL & c-UL listed product (File number E312057, UL508 standards UL60947-5-2 & CSA-C22,2 No. 14) Product Identity / Category Code Number (CCN): Industrial Control Equipment / NRKH & NRKH7 Enclosure rating: type 1, Ambient temperature: max 80 °C (see also datasheet, lowest value applies) Electrical ratings: Intended to be used with a Class 2 power source in accordance with UL1310, max. input Voltage 32V dc (see also datasheet, lowest value applies), max. current 200mA Accessory Cable Assembly: Any UL-listed (CYJV/7) mating connector with mechanical locking, wire thickness of at least 30 AWG (0,05 mm²), recommended ≤23 AWG (≥0,25 mm²)

As this device is accelerometer-based the sensor is inherent sensitive for accelerations/vibrations. Application specific testing must be carried out to check whether this sensor will fulfil your requirements.